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1. This Research Memorandum represents an exploratory discussion of issues surrounding possible changes in Marine Corps Child Care Center funding policies. Alternative concepts of equity in fee structure are discussed, and hypothetical fee structures based on different cost concepts are described. The paper also presents current program data for Marine Corps Child Care Centers.

2. Enclosure (1) is forwarded as a matter of possible interest.

for Christopher Jehn
Director
Marine Corps Operations
Analysis Group

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USER FEES AND PROGRAM COSTS IN MARINE CORPS CHILD CARE CENTERS

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ABSTRACT

This research memorandum is a preliminary review of fees, enrollment loads, and program costs of Marine Corps child care centers. It examines the funding of and participation in the centers and how changes in fee policies might affect program costs.

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INTRODUCTION

The U.S. Marine Corps has recently expressed interest in the fee structure at its child care centers (CCCs) as part of a general assessment of Marine Corps child care programs. This interest was expressed, for example, in an all-Marine (ALMAR) message issued 6 May 1988 that focused command attention on the importance of quality care for children of Marines and provided guidance on the operation of the CCCs.

The fee policy at child care centers is a key factor in how well they are able to provide quality child care that is affordable to all Marines. Currently, several different types of fee schedules are in effect at the 17 operating CCCs. Some offer lower rates to lower paygrades. Some offer a discount for second children enrolled. Most have some rate differential by age of child. Without some central guidance on fee structure in general, however, the Corps may find it difficult to respond to the twin goals of fee equity and financial sustainability of the centers.

CNA was tasked by the Family Programs Branch, Division of Human Resources, to undertake a preliminary review of fees, enrollment loads, and program costs of Marine Corps child care programs. This review was to focus on the following issues:

- Current fee and cost structures.
- How alternative fee policies, such as fixed fees, fees proportional to paygrade, or fees proportional to family income, would be distributed.
- How alternative fee structures would affect program costs, including average costs per child and marginal costs per child, and how fee changes would affect participation in the program.

The remainder of this paper presents a preliminary analysis of these issues. It describes the general characteristics of the parents supported by Marine CCCs, presents budget information related to program costs, discusses alternatives to current fee policies in terms of their distributional effects across paygrades, assesses sample alternative fee schedules in terms of program sustainability, and finally, draws together some general conclusions for planning fee policy.

CLIENTS OF MARINE CORPS CHILD CARE CENTERS

Marine Corps child care center clients are Marine families who prefer to enroll their children in on-base child care programs. Beyond this common need, however, Marine Corps child care clients differ substantially. There are single parents, dual-military families, more traditional active duty military/civilian families, Marine retirees, and associated DOD personnel.

Table 1 compares Marines using child care with all married Marines and all Marines with respect to personal characteristics and military paygrade. These comparisons (based on the

Table 1. Demographic characteristics and paygrades of Marine child care users compared with other Marines (1985)

Variable	All Marine child care users	All married Marines	All Marines
Demographic characteristics			
Median age at survey	29	28	27
Median age at first marriage	21	22	21
Median number of children aged < 15	2	2	2
Median years married	6	5	5
Median years of service	10	9	8
Percent female	6.5	4.9	4.9
Percent married	91.4	100.0	52.2
Mean family income	$27,000	$25,450	$18,430
Paygrade distributions			
Enlisted			
E-1	0.5	0.5	0.4
E-2	0.5	1.9	1.9
E-3	8.0	10.8	11.1
E-4	15.3	14.4	15.4
E-5	27.2	25.2	25.3
E-6	27.8	25.4	24.9
E-7	15.0	15.5	14.8
E-8	4.8	5.1	5.1
E-9	0.9	1.2	1.2
Total	100.0	100.0	100.0
(Median paygrade)	(E-5)	(E-5)	(E-5)
Officer			
W-1	1.5	1.6	1.6
W-2	11.3	8.0	7.8
W-3	2.1	2.5	7.4
W-4	0.0	0.5	0.5
O-1	2.2	2.0	2.0
O-2	16.1	11.6	12.1
O-3	33.6	35.3	35.8
O-4	21.1	24.3	24.1
O-5	10.2	11.8	11.4
O-6	1.5	2.1	2.0
O-7+	0.3	0.3	0.2
Total	100.0	100.0	100.0
(Median paygrade)	(O-3)	(O-3)	(O-3)

SOURCE: 1985 DOD Member Survey.

1985 DOD Member Survey) demonstrate that child care clients are very much like other Marines except that they are more likely to be married, are slightly more likely to be female, and have higher family incomes. Because most Marines who use child care are married, their characteristics tend to be similar to those of married Marines in general, except that they have somewhat higher incomes (average family incomes of $27,000 as opposed to $25,450). This reflects a higher labor force participation rate among the spouses of Marines who need child care. There are no important differences in paygrade distribution between Marines using child care and other Marines.

Table 2 presents administrative data on the composition of the client pool in the current fiscal year. On average, about 61 percent of the total clients in any child care center are enlisted Marines who have a civilian spouse. An additional 15 percent are enlisted Marines in a dual-military family. In total, about 12 percent of the clients in the average center are Marine officers, 86 percent are Marine enlisted personnel, and 2 percent are others. However, there is considerable variation in these figures by location. The largest program involving single parents, by percentage, is at Kaneohe Bay, with single parents totalling about 29 percent. Camp Butler is the only center that has no single parents participating in on-base child care, but it has by far the greatest participation of dual-military families, with about 48 percent of the client pool in this group.

COSTS OF CHILD CARE CENTERS

Marine Corps child care centers are funded from several sources, but the important distinction is between appropriated funds (AF) and nonappropriated funds (NAF). Funds appropriated for the Marine Corps may be used to pay for the following types of CCC expenses:

- Salaries of key personnel (administrative staff)
- Utilities
- Equipment purchases and maintenance
- Financial management services
- Minor construction
- Janitorial services
- Facility maintenance and repair
- Supplies
- Morale Administrative Support Division (MASD).

The major item for which appropriated funds may not be used is to pay for primary child caregivers. Expenses that cannot be funded out of appropriated funds must be covered with nonappropriated funds, including user fees and the Morale, Welfare, and Recreation (MWR) funds.

Table 2. Parents of enrollees at Marine Corps child care centers (FY 1988)

		Percentage of parents who are:								
	Total children	Single parents			Dual military		Military/civilian[a]		Military	DOD
Center	enrolled	E1-E5	E6-E9	Officer	Enlisted	Officer	Enlisted	Officer	retiree	civilian
Camp Pendleton CA	684	3.9	1.6	0.6	11.0	1.0	60.2	17.8	0.0	3.8
Camp Lejeune NC	320	7.5	6.3	0.6	17.2	0.3	68.4	2.5	0.9	1.9
Quantico VA	77	13.0	5.2	2.6	13.0	1.3	57.1	6.5	1.3	0.0
Beauford SC	139	2.2	0.7	0.0	0.7	0.0	63.3	31.7	0.7	0.7
Parris Island SC	101	6.9	0.0	0.0	11.9	2.0	72.3	3.0	0.0	4.0
Cherry Point NC	80	3.6	1.3	1.3	21.3	2.5	61.3	8.8	0.0	0.0
New River NC	64	4.7	4.7	0.0	17.2	0.0	65.6	6.3	0.0	1.6
Twentynine Palms CA	120	15.0	1.7	1.7	18.3	0.8	57.5	5.0	0.0	0.0
Albany GA	95	9.4	1.1	0.0	12.6	0.0	68.4	6.3	2.1	0.0
Camp Butler JA	109	0.0	0.0	0.0	47.7	0.9	30.3	18.3	0.0	2.8
Kaneohe Bay HI	79	25.3	0.0	3.8	21.5	1.3	44.3	3.8	0.0	0.0
Barstow CA	106	6.6	0.9	0.9	2.8	0.0	65.1	17.9	5.7	0.0
Iwakuni JA	65	7.7	1.5	13.8	12.3	1.5	50.8	12.3	0.0	0.0
San Diego CA	91	6.6	0.0	1.1	19.8	0.0	65.9	6.6	0.0	0.0
El Toro CA	319	7.8	1.9	0.6	9.1	0.9	69.0	9.7	0.9	0.0
Yuma AR	80	6.3	7.5	1.3	18.8	0.0	61.3	3.8	1.3	0.0
Tustin CA	109	4.6	0.9	0.0	8.3	0.0	80.7	4.6	0.9	0.0
Total, all Centers	2,638	7.7	1.7	1.7	15.5	0.7	61.3	9.7	0.8	0.9

SOURCE: Responses to message request issued 24 March 1988.

a. One active duty military parent and one civilian parent.

Table 3 shows FY 1988 budgets for the 17 Marine CCCs by basic funding source. Of the total program budget of $9,242,228, 15 percent is drawn from appropriated funds, with the remaining 85 percent being covered from nonappropriated funds. There is, however, significant variation in the relative shares of appropriated and nonappropriated funds by location. The Camp Pendleton CCC, for example, uses no appropriated funds; the Kaneohe Bay CCC draws about 32 percent of its support from appropriated funds. According to table 3, the average Marine Corps child care center costs about $543,661 to operate in FY 1988.

Table 3. Marine Corps child care center budgets (1988)

Center	Appropriated funds	Nonappropriated funds	Total budgeted costs	Number of child care spaces	Budgeted cost per child care space
Camp Pendleton, CA	$ 0	$1,789,351	$1,789,351	777	$2,303
Camp Lejeune, NC	76,000	692,718	768,718	375	2,050
Quantico, VA	38,024	319,277	357,301	119	3,003
Beaufort, SC	54,911	260,692	315,603	274	1,152
Parris Island, SC	60,200	322,100	382,300	194	1,971
Cherry Point, NC	43,000	215,850	258,850	225	1,150
New River, NC	35,982	191,289	227,271	158	1,438
Twentynine Palms, CA	214,000	742,367	956,367	430	2,224
Albany, GA	93,267	249,157	342,424	158	2,167
Camp Butler, JA	90,228	393,620	483,848	238	2,033
Kaneohe Bay, HI	218,788	475,279	694,067	253	2,743
Barstow, CA	45,391	192,050	237,441	150	1,583
Iwakuni, JA	45,326	230,700	276,026	159	1,736
San Diego, CA	30,946	202,914	233,860	110	2,126
El Toro, CA	200,146	1,085,980	1,286,126	410	3,137
Yuma, AZ	62,840	172,617	235,457	144	1,635
Tustin, CA	45,317	351,904	397,221	125	3,178
Total, all centers	$1,354,366	$7,887,865	$9,242,228	$4,299	$2,096
Average per center	$79,669	$463,992	$543,661		
Percentage of total total program cost	14.7	85.3	100.0		

SOURCE: Responses to message request dated 24 March 1988.

There is relatively little variation among these centers in budgeted costs per child care space. The centers at Quantico, Kaneohe Bay, El Toro, and Tustin have costs per child care space of more than one standard deviation above the average for all centers; the centers at Beaufort and Cherry Point have costs of more than one standard deviation below the average. However, it was beyond the scope of this analysis to account for these differences.

Table 4 reports FY 1988 budget breakdowns by cost component. Not surprisingly, staff salaries account for the major share of center costs, about 70 percent of the total budget. The next largest cost component, general and administrative expense (G&A) (at 8.2 percent of the total), is also a staff compensation cost. The differences in cost component shares between appropriated and nonappropriated funds reflect the fact that primary caregivers cannot be paid out of appropriated funds and the use of military staff and facilities.

Table 4. Percentage breakdown of Marine Corps child care center budgets by component (FY 1988)

Budget component	Percent of total budget		
	Appropriated funds	Nonappropriated funds	Total
Salaries	63.2	71.8	70.2
G&A	0.9	9.5	8.2
Insurance	0.4	2.0	1.7
Morale Admin. Support Div.	5.0	2.1	2.7
Supplies	8.1	5.3	5.7
Equipment	2.6	0.8	1.4
Utilities and rent	4.8	1.1	1.5
Training and TAD	1.8	0.4	0.6
Other expenses	13.3	7.0	8.0
Total	100.0	100.0	100.0

SOURCE: Responses to message request dated 24 March 1988.

NOTE: Percentages of total budget using appropriated funds include only centers using some appropriated funds. Only one center (Camp Pendleton) reported using no appropriated funds. Totals may differ slightly from 100.0 due to rounding.

ALTERNATIVE FEE POLICIES

Table 5 presents some characteristics of the fee schedules currently in effect in Marine Corps child care centers. In 6 of the 17 centers, some allowance for paygrade is reflected in the fee schedule. Eleven of the 17 centers offer a discounted fee for second and subsequent children from the same family. The base weekly fee for a single child (defined as the lowest rate charged an enlisted Marine for a three-year-old child, with meals included) ranges from $23 per week at Cherry Point to $52 per week at Quantico, with a mean of $39 per week across the program.[1]

One aspect of these fee schedules of concern to HQMC is that fees do not necessarily increase in relation to ability to pay. Inasmuch as a primary program goal is to provide affordable quality child care services to all of the Marine community, this is a major concern.

1. The Cherry Point data do not include meal costs.

Table 5. Basic fee schedule parameters

Rate based on paygrade		
Yes	6	
No	11	
Discount for additional children		
Yes	11	
No	6	
Base weekly fees for single child		
Mean	$39	
Maximum	52	(Quantico)
Minimum	23	(Cherry Point)

SOURCE: Responses to message request dated 24 March 1988.

NOTE: Fees calculated as the lowest enlisted rate for a three-year-old child, with meals included. The mean fee is weighted by the number of children in each center.

Preliminary discussion with Family Programs Branch staff suggested that the following three generic criteria for an equitable fee schedule may be appropriate:

- "Horizontal" equity: All Marines who have the same ability to pay should pay the same fees. Because military pay is standardized by rank, one important issue is the distinction between base pay and family income. The more relevant concept in some sense is total family income, since it determines ability to pay. However, it may be difficult to obtain family income data from child care users.

- "Vertical" equity: All Marines should pay a fraction of their income that is close to the average value so that child care user fees are more or less proportional across paygrades or levels of family income. Again, the distinction between base pay and family income is significant.

- "Eighty-percent" rule: Standard guidance for MWR activities is that user fees should run about 80 percent of the fees for comparable civilian services.

Given these criteria, the primary practical difficulty that would have to be faced in designing an alternative fee schedule is obtaining family income data for Marines. It may in fact be rather difficult to obtain reliable family income data, however. To some extent, these data are available for participants in the U.S. Department of Agriculture's Child Care Nutrition Program (CCNP), which provides meal subsidies on a means-tested basis. More generally, it would be

easier to develop a fee schedule based on finer gradations in paygrade in the expectation that these paygrades reflect differences in family income. Analysis of data from the 1985 DOD Member Survey suggests that paygrade and family income are fairly well correlated.

IMPLICATIONS OF ALTERNATIVE FEE STRUCTURES

The main implication of an alternative fee schedule policy, if promulgated, would be its effect on program sustainability. User fees must cover some significant fraction of the cost; therefore, the average fee must be high enough to fund whatever fraction of total cost is required. On the other hand, average user fees must not be so high as to make quality child care unaffordable and drive parents out of the local child care market.[1]

Table 6 presents cost data relevant to the issue of program sustainability. On averge, across all 17 Marine child care centers, it currently costs about $68 per week per child to provide full-time child care. The average base fee per full-time enrollee is about $39 per week, which covers about 57 percent of the total average cost per child. The residual 43 percent is made up from appropriated funds, MWR funds, and subsidies from parents who pay higher than base fees.

Table 6. Cost per child of providing Marine Corps child care services (average, all centers)

Variable	Cost per week
Average cost per child enrolled full-time	$68.25
Marginal cost per child enrolled full-time	49.27
Average base fee per child enrolled full-time	38.99

NOTE: The marginal cost was calculated from a regression analysis of child care center costs. Results of this analysis are described in the appendix. Full-time enrollment is used to standardize costs for the size of the program. Because the centers provide services to other than full-time enrollees, the costs of services to other than full-time enrollees have been spread over the full-time enrollees for comparison purposes.

1. Presumably, the main factors mitigating in favor of on-base child care are the relatively lower cost and the existence of a transportation cost for access to off-base child care. For poorer Marine families especially, the transportation cost gradient for off-base child care may be quite severe. Such transportation cost gradients will tend to guarantee a market for on-base child care and make demand for on-base care less price sensitive.

Another possible concept of cost sustainability is included in table 6, namely the *marginal cost* of the program per child. Marginal program costs are those of providing service to an additional child, given that the program must be operated at some level to serve any children at all. Under marginal cost pricing, users would pay the cost of serving their child, assuming that the center already exists. Of course, the fixed costs of serving any children at all would have to be covered from other funding sources—most notably, appropriated funds. A simple regression analysis of current CCC budgets (described in the appendix) suggests that the marginal cost of the program per full-time enrollee currently is about $49 per week, which is 72 percent of the total average cost per enrollee. (The difference between the marginal cost per child and the average cost not funded from appropriated funds is that user fees and MWR funds are used to partly pay fixed program costs.)

The following are possible concepts for a sustainable fee policy:

- Average fees should cover some arbitrary percentage of average program costs per child (e.g., 80 percent).
- Average fees should cover the entire average program cost per child (i.e., currently $68 per week per child).
- Average fees should cover the share of average program costs per child not funded from appropriated funds (84 percent of $68 per week, or $57 per week per child).
- Average fees should be based on marginal cost, estimated at about $49 per week.

Suppose, for example, that it was decided that officers would pay a fee between the total average cost of $68 per week and the marginal cost of $49 per week. These fees constitute 11.8 percent and 8.5 percent of median officer monthly base pay, respectively. If enlisted personnel fees were based on the same percentages of median monthly base pay, the minimum enlisted fee would be $22 per week and the maximum fee, $31 per week. Because the current composition of on-base child care users is about 20 percent Marine officers and 80 percent enlisted Marines, the weighted average maximum weekly fee would be $38, and the minimum weekly fee would be $27. Currently, the actual average base child-care fee is about $39 (table 6), so that an "average cost coverage" fee policy appears to be sustainable.

Economic theory suggests that marginal cost pricing might be appropriate for Marine Corps child care. How much higher would fees have to be to cover marginal program costs? Assuming that officers and enlisted personnel would be required to pay the same percentage of their monthly

base pay, one can solve the following equations for officers fees (F_O) and enlisted personnel fees (F_E):

$$0.2\,F_O + 0.8\,F_E = \$49$$

$$F_O = 2.2F_E\,.$$

The solution is an enlisted fee of $40 per week and an officer fee of $88 per week, per child.

Whatever cost sustainability concept is selected, there remains an issue of demand response to changes in the existing fee policy. If the price of child care increases for some Marines, they will be less likely to use Marine Corps child care centers; if the price decreases for some Marines, the program will tend to grow. Because no data are available on child care center usage rates under different fee schedules (the DOD Member Survey has the usage rate data, but there is no way to link it to locations or fee schedules), it is not possible to directly assess demand responses to fee changes. It is possible, however, to use the Member Survey data to make some qualitative judgments about demand responses to fee-schedule changes. Estimates from a statistical model of the choice between on-base and off-base child care suggest that Marines with lower family incomes who are married have shorter lengths of service, or that Marines who have more children are relatively more likely to use on-base child care than other Marines; therefore, changes in the fee schedule that increase fees for lower income Marines or for those requiring care for more than one child are likely to affect the Marines most likely to use on-base care.

CONCLUSIONS

The following overall lessons can be learned from this analysis:

- Marine child care users can probably be expected to pay only a fraction of the total program cost. To the extent that Marine child care is a public good within the Marine Corps, providing a service that benefits all Marines directly or indirectly, it is appropriate from an economic standpoint to fund the fixed costs of the program from sources other than user fees.

- Marine child care users currently must pay a relatively high percentage of their base pay for child care, on average. Some of the burden on the lower paygrades could be redistributed to the higher paygrades, but there certainly must be limits to the level of fees higher paygrades will accept. In any case, an "80-percent" rule, under which Marines would pay no more than 80 percent of the civilian income share, or 8 percent of their income, probably cannot be supported.

- Design of a new fee policy must take into account the likely effects of rate changes on participation in the program, the practical feasibility of supporting more than a handful of paygrade ranges in the child care rate schedule, and the need to provide a

given level of funding from user fees; therefore, the following questions would need to be answered:

- What fraction of total program cost must be funded by user fees?
- What level of program participation is expected?
- Given the average user fee implied by responses to the first two questions, what fraction of average base pay among users is the average fee (i.e., what is the base proportional rate)?
- How much deviation from the base proportional rate must be tolerated to keep higher paygrades in the program?

APPENDIX

STATISTICAL METHODS USED IN ANALYSIS

APPENDIX

STATISTICAL METHODS USED IN ANALYSIS

The analysis presented in this paper uses mostly straightforward tabular comparisons of personal characteristics, program costs, and so forth. In two cases, however, it was necessary to employ more sophisticated statistical techniques. In the first case, a linear regression model was used to estimate the cost of serving an additional child with the average level of fixed costs held constant. In the second case, a nonlinear logit model was used to estimate the marginal effect of personal characteristics on the probability of using on-base child care. This appendix contains a short description of these models and presents the estimation results from each.

ESTIMATING MARGINAL COSTS USING A REGRESSION MODEL

Several variables were considered that are likely to affect the level of program costs at Marine child care centers. First, program costs are obviously related positively to the number of full-time enrollees: it costs more to care for more children. Second, one might suppose that program costs are higher outside of CONUS because of the difficulty in attracting qualified staff and because of transportation costs. Finally, some centers accept children on a "drop-in" basis when parents need a temporary source of child care. "Drop-ins" require less administrative overhead and usually can be accommodated using less expensive staff, because, essentially, what is being provided is simple babysitting services.

To distinguish the independent effects of each of these variables on program cost, a simple regression model was specified. This model represents program costs as a linear function of the variables of interest, with some additive error. Equation A-1 presents the regression equation that was estimated:

$$y = a_0 + a_1 X_1 + a_2 X_2 + a_3 X_3 + \varepsilon , \qquad \text{(A-1)}$$

where y = total program cost, X_1 = whether center is in CONUS, X_2 = whether center accepts drop-ins, X_3 = number of full-time enrollees in program, and ε is the additive regression error.

Table A-1 presents estimates of the parameters of this model. The only statistically significant effects are those of the number of children on program costs and of the level of fixed costs (estimated as the intercept of the regression equation). According to these estimates, the average fixed costs of operating a Marine child care center are about $10,348 per week, and the marginal cost of serving each additional full-time enrollee is about $49.27 per week. This model accounts for about 76 percent of the observed variation in program costs among child care centers.

Table A-1. Regression analysis of program costs

Variable	Parameter estimate	T-ratio
Center in CONUS	-3,005	-1.12
Accepts drop-ins	-5,051	-1.18
Number of full-time enrollees	49	7.28
Intercept	10,348	2.14
Number of observations: 17		
Adjusted $R^2 = 0.759$		

LOGIT MODEL OF PARTICIPATION IN ON-BASE CHILD CARE

Although the desire to participate in on-base child care can be measured conceptually along a continuum, what one actually observes in the data is a discrete event—whether the parent uses on-base care. Modeling such discrete choices with a linear regression model similar to that used for program cost is problemmatical in that the linear model is statistically inefficient and the probabilities of outcome occurrences predicted from a linear model cannot be constrained to lie between 0 and 1, as true probabilities must.

A conventional respecification of this problem is to suppose that the discrete choice reflects an unobserved continuous variable that represents a preference for discrete action. When the preference variable exceeds some threshold, the discrete choice is observed. If the underlying preference variable falls below a threshold, the observed on-base choice equals 1 (and 0 otherwise).

$$y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$$

$$q = 1 \text{ if preference} < 0 \qquad \text{(A-2)}$$

$$q = 0 \text{ if preference} > 0 \ ,$$

where y = preference for on-base care, X_1 = pay grade, X_2 = whether married, X_3 = length of service, X_4 = number of children, and q = observed choice of on-base care ($q = 1$), with the threshold normalized to zero.

Table A-2 presents estimates from a logit specification of this model. All of the variables have statistically significant effects on the probability of choosing on-base child care. (Only parents who used some kind of child care were included in the sample.) For every additional

$1,000 of family income, the Marine family would be about 0.8 percentage points less likely to use on-base child care; if the parent is married, he or she is about 31.1 percent more likely to choose on-base care; for every additional year of service, the probability of using on-base care declines by another 0.8 percent; and for every additional child in the family, the likelihood of using on-base child care increases by 11.6 percentage points.[1]

Table A-2. Logit estimates of choice of on-base child care

Variable	Parameter estimate	Chi-square statistic	Effect on probability of choosing on-base care
Family income ($1,000s)	–0.015	27.48	–0.008
Whether married	0.567	19.33	0.311
Length of service	–0.015	4.43	–0.008
Number of children	0.212	37.88	0.116
Intercept	–0.717	24.15	
Pseudo R^2 = 0.082			

NOTE: As suggested by Maddala,[2] pseudo R^2 is defined as:

$$\frac{1-\left(\frac{L_\omega}{L_\Omega}\right)^{2/n}}{1-L_\omega^{2/n}},$$

where L_ω is the sample likelihood of a null model (containing only a constant term) and L_Ω is the sample likelihood of the model as estimated.

1. The pseudo R^2 of 0.082 is rather low, which indicates that this model does not explain the choice of on-base child care very well.
2. G.S. Maddala. *Limited-Dependent and Qualitative Variables in Econometrics.* Cambridge University Press, 1983.